sATX-Q35-ER

ATX Embedded Motherboard with PCI Express/PCI Expansion Slots and RAID

Features

- ATX form factor with PCI Express and PCI expansion slots
- Processors
  - Intel® Core™ 2 Quad/Duo, (LGA 775)
  - Intel® Wolfdale, (LGA 775)
- Q35/ICH9R chipset combination
- Up to 8 Gbyte DDR2 SDRAM, 240-pin DIMMs
  - Dual channel (128-bit)
- VGA and DVI-I interfaces
- PCI Express and PCI expansion slots
- Two Gigabit Ethernet ports
- Six USB 2.0 ports on rear panel
  - Additional six ports onboard
- Two COM ports
- Six SATA interfaces (up to 3 GB/s)
  - RAID 0, RAID 1, RAID 0+1 and RAID 5
- Two IDE devices
- High definition audio
- Temperature, voltages and fan alarms
- Energy efficiency
  - Wake-On events (PS/2, USB, LAN, Ring, RTC)
  - Supports ACPI specification 2.0
  - CPU stopped clock control
  - Microsoft®/Intel® APM 1.2 compliant
  - System power management
- RoHS compliant

ATX is an open-architecture with industry-wide acceptance that provides for product longevity and stability. sATX-Q35-ER is an ATX embedded motherboard with expandable I/O functionality through off-the-shelf PCI Express and PCI cards. It features a choice of processors including Intel's Core 2 Quad, Core 2 Duo and the Wolfdale. These processor options not only deliver performance-per-watt improvements, but also provide an excellent choice for system integrators with high-performance requirements.

With four DIMM sockets, the 8 Gbyte of DDR2 memory can to be adjusted, on demand, to satisfy an application's needs. The sATX-Q35-ER is well equipped with two Gigabit Ethernet ports, up to 12 USB ports, and two COM ports. Also supported are various mass storage devices, including choice of six SATA channels or two IDE devices.

For superior graphic performance, this ATX single board computer features an integrated analog CRT and a DVI-I interface along with the Intel Graphics Media Accelerator X3100. Attaching a PCI Express x16 graphic/video accesses even more graphic power. Couple this with a high-definition audio port and the sATX-Q35-ER lends itself to a wide range of multimedia implementations.

Various RAID levels are supported:

RAID 0 (2 disks minimum)
Striped set without parity, it provides improved performance but no fault tolerance.

RAID 1 (2 disks minimum)
Mirror set without parity, it provides fault tolerance.

RAID 0+1 (2 disks minimum)
Striped set and mirror set, it provides fault tolerance and improved performance.

RAID 5 (3 disks minimum)
Striped set with distributed parity, the array is not destroyed by a single drive failure.

sATX-Q35-ER is powered via a 24-pin ATX power and an 8-pin 12 V power connector.

The sATX-Q35-ER is well suited for industrial environments where shock, vibration and extended temperature operation are not required.

The product is RoHS compliant.

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Specifications

Processor
- LGA 775 socket for:
  - Intel Core 2 Quad/Duo processor
  - Intel Wolfdale
- Enhanced Memory 64 Technology (EMT64T)
- Enhanced Intel SpeedStep Technology (EIST)
- 1333/1066/800 MHz FSB

Chipset – Intel
- Intel Q35 Express Chipset
- Intel ICH9R

Memory
- Four 240-pin DIMM sockets
- Supports up to 8 Gbyte of DDR2 SDRAM
- Supports 533, 667 and 800 MHz DDR2 unbuffered DIMMs (non-ECC)
- Dual channel (128-bit wide) memory interface

Graphics
- Built-in Intel Graphics Media Accelerator 3100
- VGA and DVI (SDVO) interface
- Dual screen displays through CRT and DVI

Audio
- Realtek ALC882 high definition audio CODEC
- 7.1 + 2-channel audio output
  - 8 DAC channels (16/20/24-bit PCM)
  - Extra two DAC channels (16/20/24-bit PCM)
- DACs (up to 192 kHz) support for DVD-Audio
- ADCs support up to 96K sample rate
- S/PDIF input/output interface

LAN
- Two Realtek RTL8111B PCI Express Gigabit controllers
- Supports 10 Mbps, 100 Mbps and 1 Gbps
- IEEE 802.3 and IEEE 802.3ab compliant

Expansion
- 1x PCI Express x16 slot
- 1x PCI Express x1 slot
- 4x PCI slots

Storage Interfaces
- Six Serial ATA interfaces (up to 3.0 Gbyte/s)
  - RAID 0, RAID 1, RAID 0+1, RAID 5
- Silicon Image Si3811 SATA to PATA bridge
  - Two Ultra DMA 133/100/66/33 IDE devices

Rear Panel I/O Ports
- Mini-DIN-6 PS/2 keyboard port
- Mini-DIN-6 PS/2 mouse port
- 1x DB-15 VGA port
- 1x DVI-I port
- 2x RJ45 LAN ports
- 6x USB 2.0 ports
- 6x audio jacks for center/subwoofer, rear/L, side R/L, Mic-In, Line-In and Line-Out (front R/L)

I/O Connectors
- Connectors for additional six USB 2.0 ports
- Two COM ports
- Digital IO
- Parallel port
- Front audio
- CD-In internal audio
- S/PDIF
- IrDA
- 6x SATA
- 1x 40-pin IDE
- Floppy
- 24-pin ATX power
- 8-pin 12 V power
- Chassis open
- Front panel
- 3x fan control

Ordering Information

SA0Q3500E22R1
ATX embedded motherboard with PCI Express and PCI slots for PGA processors without memory

BIOS
- Award BIOS
- 8 Mbit SPI Flash memory

Monitoring
- Temperature, voltages, fans, failures
- Watchdog

Temperature
- Operating: 0° C to +60° C
- Non-operating: -40° C to +85° C

Humidity
- Operating: 10% to 90%

PCB
- Dimensions
  - ATX form factor
  - 305 mm x 244 mm (12" x 9.6")

About GE Fanuc Intelligent Platforms
GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

GE Fanuc Intelligent Platforms Information Centers

Americas:
1 800 322 3616 or 1 256 880 0444

Asia Pacific:
+81 3 5544 3973

EMEA:
   Germany: +49 821 5034-0
   UK: + 44 1327 359444

Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

www.gefanuc.com